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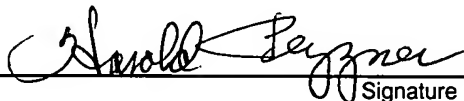
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TRANSMITTAL OF APPEAL BRIEF

Docket No.
M-6385A (155*362)

In re Application of: JOSEPH S. WYCECH

Application No.
10/026,501Filing Date
DECEMBER 19, 2001Examiner
HAI VOGroup Art Unit
1771

Invention: REINFORCEMENT LAMINATE

TO THE COMMISSIONER OF PATENTS:

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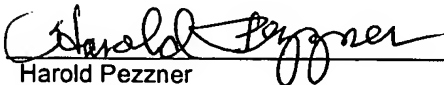
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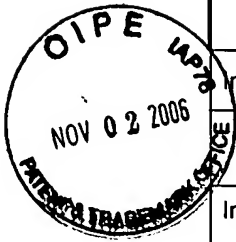
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Dated: November 2, 2006



Application No.: 10/026,501

Docket No.: 00155-00362-USA



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

SHIMIZU S. Wycech

Application No.: 10/026,501

Filed: December 19, 2001

Art Unit: 1771

For REINFORCEMENT LAMINATE

Examiner: Hai Vo

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APPEAL BRIEF

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Application No.: 10/026,501

Docket No.: 00155-00362-USA



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Joseph S. Wycech

Application No.: 10/026,501

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For REINFORCEMENT LAMINATE

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APPEAL BRIEF

This is an appeal pursuant to 35 USC §134 from the Examiner's final rejection of June 12, 2006. wherein claims 1-18, 35, 36, 52-54 and 56-58 were rejected. This appeal is directed to the rejection of those claims.

I. THE REAL PARTY OF INTEREST

The real party in interest is Henkel Kommanditgesellschaft auf Aktien (Henkel KGaA), assignee of the inventor's entire interest.

II. RELATED APPEALS AND INTERFERENCES

None.

III. THE STATUS OF THE CLAIMS

Claims 1-18, 30-36, 52-54 and 56-58 are pending. In the final rejection claims 1-18, 35, 36, 52-54 and 56-58 were rejected. Claims 30-34 were allowed.

IV. STATUS OF AMENDMENTS AFTER FINAL

None.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The following is a presentment of claims 1, 5, 15, 35, 54 and 56 which are being argued as separately patentable. Because

claim 5 is dependent on claims 3 and 4 (as well as claim 1) and because claim 15 is dependent on claims 8 and 14 (as well as claim 1) in the presentment of the claims being separately argued, claims 3, 4, 8 and 14 are included to show support for the features of those claims as well as the separately argued claims. In this presentment the claims have been modified to indicate in parenthesis support for each recitation in the specification and drawings.

1. A reinforcement laminate for reinforcing a substrate (page 2, line 17 to page 3, line 1) comprising a carrier layer ("7" or "14"), said carrier layer being made of a non-foamable material (page 3, lines 5-6; page 14, lines 17-18; carrier 7 or backing 14 made of materials which inherently are non-foamable), a first layer of foamable material capable upon activation of becoming a rigid reinforcement foam secured to said carrier layer (layer 6 is secured to carrier layer 7 in Figure 3; layer 16 of Figure 8 may be of the two layer form of Figure 3 - page 10, lines 15-20; layer 6 is a rigid foam after curing - page 6, lines 7 and 15-16; layer 6 expands after activation - page 13, lines 18-20; page 14, lines 5-6), a second layer of foamable material capable upon activation of becoming a compliant foam secured to said first foamable layer (layer 5 is secured to layer 6 in Figure 3; layer 16 of Figure 8 may be of the two layer form

of Figure 3 - page 10, lines 15-20; layer 5 is a compliant foam after curing - page 6, lines 19-20; layer 5 expands after activation - page 13, lines 18-20; page 14, lines 5-6), said second foamable layer comprising a bonding layer for securing said laminate to a substrate (page 6, lines 5-6; Figure 3), said first foamable layer and said second foamable layer being heat curable (page 5, lines 19-20; page 14, lines 5-6), said second foamable layer upon activation becoming a foam layer capable of absorbing shrinkage strains due to heat cure of said second foamable layer and cooling of the substrate (page 2, lines 10-13; page 6, lines 11-17; 19-20), and including a pattern of holes creating open passageways completely through said laminate (holes 32 in Figures 9-10 and holes 34 in Figure 11; page 3, lines 17-18; page 12, line 17 to page 13, line 7).

3. The laminate of claim 1 in combination with said substrate (substrate 1 of Figures 3-7; substrate 10 of Figures 8-9), and said second layer being intimately bonded directly to said substrate (layer 5 is intimately bonded to the substrate 1 in Figures 3 and 5-7; page 3, lines 1-3; page 6, lines 5-6).

4. The laminate of claim 3 wherein said first and second layers and said carrier layer have a generally continuous contour (Figures 3 and 5-7 show layers 5, 6 and 7 to have a generally smooth or continuous contour or surface), and at least one rib

formed by said first and second layers and said carrier layer forming a minor interruption of said continuous contour (rib is formed by section 7A of carrier 7 and portion 8 of layers 5-6 in Figure 6 and is formed by central extension 7C of backing/carrier 7 and by central extension 9A of layers 5, 6 in Figure 7; page 8, line 15 to page 9, line 13).

5. The laminate of claim 4 wherein said substrate includes a rib in line with said rib of said foamable layers and said carrier layer (rib 1A of panel/substrate 1 in Figure 7).

8. The laminate of claim 1 wherein said laminate in its elevation view has a pair of longitudinal side edges interconnected by a pair of transverse end edges and at least one of said pair of side edges and said pair of end edges is of non-straight and undulated shape (longitudinal side edges 26 and end edges 24 in Figure 10 and longitudinal side edges 28 and end edges 30 in Figure 11; page 3, lines 12-14; page 11, line 9 to page 12, line 10).

14. The laminate of claim 8 in combination with said substrate (substrate 1 of Figures 3-7; substrate 10 of Figures 8-9), and said second layer being a compliant foam layer intimately bonded to said substrate (layer 5 is intimately bonded to the substrate 1 in Figures 3 and 5-7; page 3, lines 1-3; page 6, lines 5-6).

15. The laminate of claim 14 wherein said substrate is a vehicle door (substrate 1 of Figure 4 and substrate 10 of Figure 8; page 8, lines 3-4; page 10, lines 9-10).

35. The laminate of claim 1 wherein said carrier layer is selected from the group consisting of fiberglass cloth, metal screen and foil (page 3, lines 5-6; page 5, lines 15-17; page 6, lines 8-9; page 14, lines 17-20).

54. The laminate of claim 1 wherein said first layer is made of a material comprising 35-95% by weight synthetic resin, 1-60% by weight cell forming agent and 1-55% by weight filler (page 7, lines 9-15; paragraph added to page 8, after line 2 by December 12, 2005 amendment).

56. A reinforcement laminate for reinforcing a substrate (page 2, line 17 to page 3, line 1) comprising a carrier layer ("7" or "14"), a first layer of foamable material capable upon activation of becoming a rigid reinforcement foam secured to said carrier layer (layer 6 is secured to carrier layer 7 in Figure 3; layer 16 of Figure 8 may be of the two layer form of Figure 3 - page 10, lines 15-20; layer 6 is a rigid foam after curing - page 6, lines 7 and 15-16; layer 6 expands after activation - page 13, lines 18-20; page 14, lines 5-6), said first layer being made of a material comprising 35-95% by weight synthetic resin, 1-60% by weight cell forming agent and 1-55% by weight filler (page 7,

lines 9-15; paragraph added to page 8, after line 2 by December 12, 2005 amendment), a second layer of foamable material capable upon activation of becoming a compliant foam secured to said first foamable layer (layer 5 is secured to layer 6 in Figure 3; layer 16 of Figure 8 may be of the two layer form of Figure 3 - page 10, lines 15-20; layer 5 is a compliant foam after curing - page 6, lines 19-20; layer 5 expands after activation - page 13, lines 18-20; page 14, lines 5-6), said second foamable layer comprising a bonding layer for securing said laminate to a substrate (page 6, lines 5-6; Figure 3), said first foamable layer and said second foamable layer being heat curable (page 5, lines 19-20; page 14, lines 5-6), said second foamable layer upon activation becoming a foam layer capable of absorbing shrinkage strains due to heat cure of said second foamable layer and cooling of the substrate (page 2, lines 10-13; page 6, lines 11-17, 19-20), and including a pattern of holes creating open passageways completely through said laminate (holes 32 in Figures 9-10 and holes 34 in Figure 11; page 3, lines 17-18; page 12, line 17 to page 13, line 7).

VI. GROUNDS OF REJECTIONS TO BE REVIEWED ON APPEAL

The grounds of rejection for appeal are: (1) the rejection of claims 1-18, 35, 36, 52-54 and 57 under 35 U.S.C. 112, first

paragraph, as failing to comply with the written description requirement; (2) the rejection of claims 1, 3, 7, 16-18, 52 and 53 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Steward, et al. (U.S. 4,231,590); (3) the rejection of claims 1, 3-14, 18 and 36 under 35 U.S.C. 102(b) as being anticipated by Nomura, et al. (U.S. 4,128,683); (4) the rejection of claim 35 under 35 U.S.C. 103(a) as being unpatentable over Nomura, et al. (U.S. 4,128,683) further in view of Daniel (U.S. 4,234,907); (5) the rejection of claims 1-4, 16-18, 52-54 and 56-58 under 35 U.S.C. 103(a) as being unpatentable over Wycech (U.S. 5,575,426) in view of Muramatsu (U.S. 5,866,052). [Dependent claims 15-17 were further rejected under 35 U.S.C. 103(a) as being unpatentable over Nomura, et al. (U.S. 4,128,683) and dependent claim 2 was further rejected under 35 U.S.C. 103(a) as being unpatentable over Nomura, et al. (U.S. 4,128,683) further in view of Daniel (U.S. 4,234,907)]. These rejections are not being separately argued in that if parent claim 1 is found to be patentable over Nomura, et al. then the rejection of its dependent claims 2 and 15-17 which are also based upon Nomura, et al. would be moot.]

VII. ARGUMENT

A. The Invention in General

The invention has particular utility in the automotive field and more particularly in addressing the paint read through problem. The conventional practice to stiffen outer automotive body panels is with a sheet thermoset polymer placed on the inside of a panel and then heated in a paint oven. (page 1, lines 8-10) When, for example, the vehicle door is painted during heat cure there is a problem with paint read through due to the heat curing of the outer metal body panel stiffener and the expansion and contraction of the metal outer panel during the paint baked cycle. (page 1, line 19 to page 2, line 3)

In accordance with this invention the stiffener is a laminate which includes two polymer layers. One of the layers is a compliant foam which would be disposed directly against the substrate or structural member being reinforced. The other layer is a rigid foam secured to the other side of the compliant foam layer with a carrier secured to the outer surface of the rigid foam layer. (page 2, line 17 to page 3, line 7)

In practice when the laminate cures, the compliant foam layer which is applied directly against the substrate can not transfer shrinkage strains to the substrate and the compliant layer can not restrain the outer metal panel from shrinking when the panel comes out of the oven because the compliant layer is

not rigid after cure. The other foamable layer becomes rigid after cure, but its shrinkage strain is blocked from getting to the substrate because of the intervening compliant layer. The backing or carrier provides additional stiffness. (page 6, lines 4-18) The compliant foam layer absorbs shrinkage strains due to the cure of the heat curable layers. Large shrinkage strains of the rigid layer are not transmitted to the metal substrate or panel, but yet the rigid layer with its backing will stiffen the panel. (page 6, line 19 to page 7, line 3)

In accordance with this invention read through is controlled by various techniques. One technique which is defined in all of the rejected claims is by forming holes through all of the polymer and backing layers. Another technique which is defined in various dependent claims is to form the edges of the laminate to be either wavy or saw tooth on two and/or four opposing edges. (page 3, lines 8-20)

The above features of the invention were considered by the present Examiner to be patentable when defined in terms of the final use condition, i.e., when the foamable layers have already been cured and the laminate is in combination with the substrate being reinforced. Such claims were allowed by the present Examiner in U.S. 6,372,334 which is the parent of the present

application and also are embodied in allowable claims 30-34 of this application. The claims under rejection are directed to the laminate in its condition before the foamable layers have been cured and are still in their "foamable" condition which would be the form of the laminate when sold to customers and prior to being mounted to the substrate and then being subjected to the curing which activates the foamable layer into their foamed form.

B. The Rejection under 35 U.S.C. 112

1. The Section 112 rejection

Claims 1-18, 35, 36, 52-54 and 57 were rejected under 35 U.S.C. 112, first paragraph as failing to comply with the written description requirement. In particular, the Examiner stated that as regards parent claim 1 "Basis for 'carrier layer being made of a non-foamable material' is not fully supported by the present specification. The non-foamable material could include a ceramic, wood or inorganic material and therefore, the claims contain subject matter which does not fall within the scope of the present invention."

The specification at various portions refers to specific materials that could be used as a backing or carrier, such as foil or fiberglass. (See for example, page 6, lines 8-9) These

materials are inherently non-foamable. Accordingly, claim 1 refers to the materials by a characteristic which is common to them, namely, "a non-foamable material". The Examiner does not dispute that these materials are non-foamable. Rather, it is apparently the position of the Examiner that the generic reference to "non-foamable material" could include materials in addition to those specifically disclosed namely, "the material could include a ceramic, wood or inorganic material and therefore, the claims contain subject matter which does not fall within the scope of the present invention". Thus the Examiner is not asserting the term "non-foamable material" is new matter or is not supported by the specification, but rather the term is of a breath that it would include materials which are not disclosed in the specification.

2. The claims comply with Section 112

Appellant is, however, entitled to claim his invention in terms which are not limited to the specific embodiment or disclosed materials. For example, in In re Smythe, 480 F.2d 1376,1383-85 (C.C.P.A., 1973) the court found that the disclosure of "air or other gas which is inert to the liquid" in the specification supported the claim of "inert fluid". The court was unpersuaded by the argument that "fluid" encompassed

"liquids" which were not in the specification and the court concluded that the fact that some liquids are predictably inoperative is of no consequence because they would never be selected by a person skilled in the art. (1385) More recently, in Enzo Biochem, Inc. v. Gen-Probe, Inc., 296 F.3d 1316,1327 (Fed. Cir., 2002) in a case involving gene sequences the court cited In re Smythe for the proposition that if "those sequences are representative of the scope of the genus claims, i.e., if they indicate that the patentee had invented species sufficient to constitute the genera, they may be representative of the scope of those claims". Thus, the recitation in claim 1 of the present application of a generic term which is generic to materials that are disclosed is proper.

C. Rejections over the Prior Art

1. The rejecting references

a. Steward, et al. U.S. 4,211,590 ("Steward")

Steward is directed to providing a resilient perforated contoured panel such as used for trimming the interior of passenger compartments of automobiles. More particularly, Steward is directed to "resilient headliners of the so-called snap-in type which are adapted to be positioned adjacent to the

underside of steel roof panels of vehicles in order to impart the desired aesthetic appearance and to further provide insulation against the transmission of noises into the interior of the passenger compartment". (col. 1, lines 6-18) As shown in Figure 2, the headliner 6 "comprises a composite laminar sheet 8 comprising thermoplastic films 10,12 tenaciously bonded in supported relationship to the face surfaces of an intervening coextensive thermoplastic foam core or layer 14. The composite sheet 8 incorporates a plurality of perforations 16 extending through the films and foam core from one face to the opposite face thereof." (col. 3, lines 27-36) "The films of the composite laminar sheet can be composed of the same polymer as the foam core although they preferably incorporate minor amounts of additional modifying agents to increase their impact resistance." (col. 5, lines 26-30) In making the composite laminar sheet 8 the films are secured to the already foamed core. (col. 5, line 60 - col. 6, line 16) After the laminar sheet is formed with the core in its foam condition perforations are then formed through the composite laminate sheet. (col. 6, lines 17-21) "Thereafter, the flat, perforated laminar sheet is heated to an elevated temperature to effect a heat softening thereof enabling subsequent thermoforming. This results in further expansion of

the foam core to at least 1.5 times its original thickness."

(col. 6, lines 28-40)

There is no disclosure in Steward of having two separate "foamable" layers capable of becoming a compliant foam and a rigid foam after curing or of forming the holes or perforations through the three layer laminate before two of the layers are in their foam condition.

b. Nomura, et al. U.S. 4,128,683 ("Nomura")

Nomura relates to an auto ceiling panel which comprises, as shown in Figure 1, a metal lath 1 sandwiched between polyethylene foams 2,3 with a vinyl chloride sheet 4 mounted to foam 2. (col. 2, lines 16-21) The vinyl chloride sheet-coated polymer foam 2 is bored with holes 5 and the polyethylene foam 3 is bored with numerous larger holes 6. (col. 2, lines 22-28) The auto ceiling panel is manufactured by first separately boring the polyethylene foams 2,3 and then sandwiching the metal lath 1 between the two foams 2,3. "The ceiling panel with such a structure is so rigid and sound-isolating as to make an auto ceiling with an excellent effect of absorbing the noise." (col. 2, lines 59-68) The ceiling panel structure "in which a vinyl chloride sheet-coated polyethylene foam is bored with fine holes, while another polyethylene foam is bored with less fine

holes; and a metal lath is sandwiched between these two foams by thermal fusion, through holes are perfect at least where the fine holes and the less fine holes overlap each other, yielding a highly permeable ceiling panel with an excellent effect of insulating and absorbing the sound." (col. 3, lines 41-49) "Since the sandwich between polyethylene foams is a metal lath, a ceiling panel with as many through holes as to insure a good effect of sound absorption can be yielded without obstruction of through holes." (col. 3, line 67 - col. 4, line 2)

There is no disclosure of a three-layer laminate comprising a carrier layer and two foamable layers wherein this laminate with the layers in their foamable condition have holes extending completely through the laminate.

c. Daniel U.S. 4,234,907 ("Daniel")

Daniel was relied upon as a secondary reference in the rejection of claims 2 and 35 which defined specific carrier materials. Daniel relates to an illuminated fabric into which optical fibers are woven. (col. 1, lines 6-8) In relying on Daniel the Examiner referred to Figure 3 which is a panel constructed for architectural uses. Specific reference is made that the "structure can be applied to bathroom fixtures, glass enameled coated brick or tiles, or in most applications where

glass enameled coatings are presently used." (col. 7, lines 35-38) Daniel, additionally, discloses among the myriad of different uses "automobile bodies". (col. 3, lines 61-63)

d. Wycech U.S. 5,575,526 ("Wycech")

Wycech discloses techniques for increasing the strength and stiffness of automotive body structural members. The Examiner specifically referred to the embodiments illustrated in Figures 2-2A and 11.

In the embodiment of Figures 2-2A the structural member is a radiator support structure or beam 12 which comprises an outer shell or portion 14 formed as a steel stamping. An inner tube shown as channel-shaped tube 16 is provided with a layer of resin-based material 18. (col. 3, lines 46-54) Outer shell 14 may have through-holes 26 for the passage of electrical wiring or the like and inner tube 16 would have over sized through-holes 32 in alignment with through holes 26. (col. 6, lines 12-23) The resin material corresponds to the layer of foamable material which becomes the rigid reinforcement foam claimed in the claims under rejection. Indeed, the present specification specifically refers to Wycech as disclosing such material.

In the embodiment of Figure 11 the windshield pillar 54 comprises a windshield pillar 56 separated from the windshield pillar inner tube 58 by the resin based layer 60.

Wycech does not disclose the three layer laminate of the claims under rejection. Most notably Wycech lacks the foamable layer which would become the compliant foam and Wycech is not directed to solving any paint read through problems.

e. Muramatsu U.S. 5,866,052 ("Muramatsu")

Muramatsu was relied upon as a secondary reference in combination with Wycech for the teaching of "a windshield pillar comprising a soft foam layer sandwiched between two rigid foam layers as shown in figure 7 (column 8, lines 60-67)."

Muramatsu is specifically directed to manufacturing a structural body having a high degree of rigidity without suffering from deformation or distortion of the body. (col. 1, lines 7-12) The structural body is the pillar of the vehicle or "other types of hollow members having the enclosed inner space, such as a rocker, a side member or a cross member, and a beam used in the vehicle". (col. 6, lines 46-52) In general, this is accomplished by inserting a hard foamable material into the inner space and then foaming and expanding the foamable material to

completely fill the inner space. (col. 5, lines 61-64) One of the features of Muramatsu is the provision of some means to absorb expansion when the hard foamable material is foamed and expanded. This is illustrated in the embodiments of Figures 2-5 as being voids in the hard foamable material. Figure 6 is directed to a variation where a soft foamable material functions as the expansion absorbing means. (col. 7, lines 59-67) Specifically, in Figure 6 the hard foamable material 114 is fixed to the pillar and a soft foamable material 36 is embedded in the hard foamable material. (col. 8, lines 1-6)

Figure 7 is a variation of Figure 6 wherein "The hard foamable material 44 consists of an upper and a lower hard foamable sheet 40,40 and a soft foamable sheet 42 sandwiched by and between the lower and upper hard foamable sheets 40,40". (col. 8, lines 57-66)

In both the embodiments of Figures 6 and 7 where a soft foamable material is used in combination with a hard foamable material the soft foamable material is an intermediate layer and would not be in direct contact with the substrate since the hard foamable material is disposed on each side of the soft foamable material. In contrast with the trilaminate in the rejected claims herein the compliant layer is an outer layer which

comprises "a bonding layer for securing said laminate to a substrate". The rigid layer, unlike Muramatsu, is an intermediate layer located between the compliant layer and the carrier.

2. The separately argued claims

a. Claim 1

(i) The subject matter of claim 1

Claim 1 is directed to a reinforcement laminate which comprises three separate layers. One layer is a carrier layer made of a non-foamable material. A first layer of foamable material is secured to the carrier layer. The first layer is required to be capable upon activation of becoming a rigid reinforcement foam. A second layer of foamable material is secured to the first foamable layer. The second layer of foamable material is required to be capable upon activation of becoming a compliant foam and of comprising a bonding layer for securing the laminate to the substrate. Both of the foamable layers are heat curable. The second foamable layer is also required upon activation to be capable of absorbing shrinkage strains due to heat cure of the second foamable layer and cooling of the substrate. The laminate thus comprises three layers with

the carrier layer and the second layer (capable of becoming a compliant foam) as being outer layers and with the first layer (capable of becoming a rigid foam) being the intermediate layer. Claim 1 also defines a pattern of holes creating open passageways completely through the laminate, i.e. completely through all three layers.

(ii) Claim 1 is patentable over Steward

Claim 1 was rejected under 35 U.S.C. 102(b) or in the alternative under 35 U.S.C. 103(a) over Steward. Steward has been previously discussed in detail. As noted, Steward is not directed to addressing any paint read through problem. Rather, Steward is concerned with providing a snap in headliner to the under side of a vehicle roof panel in order to impart the desired aesthetic appearance and to provide insulation against the transmission of noises into the interior of the passenger compartment. Steward makes no disclosure or suggestion of providing two separate "foamable" layers wherein one of the layers has the physical characteristics of being capable of becoming a compliant foam and the other layer of becoming a rigid foam after curing. In addition, Steward does not disclose or suggest forming holes or perforations through a three-layer laminate wherein two of the layers are not yet in their foam

condition. Accordingly, Steward is not directed to solving the same problems as is claim 1 and Steward, in any event, does not disclose or suggest the claimed structure. Therefore, Steward does not anticipate nor make obvious the invention of claim 1.

(iii) Claim 1 is patentable over Nomura

Nomura has also been previously discussed in detail. As pointed out Nomura relates to an auto ceiling panel having a structure which is so rigid and sound isolating as to make an auto ceiling with an excellent effect of absorbing the noise. Thus, Nomura is not directed to solving the same problem of claim 1, herein, namely paint read through. There is no disclosure in Nomura of a three layer laminate which comprises a carrier layer and two "foamable" layers with holes extending completely through the laminate. Rather, in Nomura a metal lath 1 is sandwiched between two polyethylene foams 2,3 with a vinyl chloride sheet 4 is mounted to the foam 2. The holes are formed by separately boring the polyethylene foams 2,3 and then sandwiching the metal lath between the two foams. Thus, the holes are not bored while the various layers comprise a three layer laminate having two of the layers in their not yet foamed, but "foamable" condition.

(iv) Claim 1 is patentable over

Wycech in view of Muramatsu

Wycech is pertinent to the extent that it discloses one of the layers, namely, the layer that would become a rigid foam which could be used with the invention of claim 1. As previously discussed, however, Wycech does not disclose the three layer laminate and particularly one of the layers being a "foamable" layer which has the structural capability upon curing of becoming compliant. Wycech is not directed to solving any paint read through problems.

Muramatsu was apparently relied upon because of its disclosure of a windshield pillar which is one of the parts disclosed in Wycech. As with Wycech, Muramatsu likewise is not directed to solving any paint read through problem. Moreover, in Muramatsu where a soft foamable material is used in combination with a hard foamable material the soft foamable layer is the intermediate layer. In contrast, with the trilaminate defined in claim 1 the compliant layer is the outer layer so that it could comprise a bonding layer for securing the laminate to the substrate. With claim 1 the foamable layer that would become the rigid layer is the intermediate layer located between the layer that would become the compliant layer and the carrier layer which is in striking contrast to Muramatsu. Thus, neither Wycech nor Muramatsu discloses or suggests the combination of layers defined in claim 1 wherein one of the foamable layers having the

structural characteristic of being a compliant layer is the outer layer, not an intermediate layer.

b. Claim 5

(i) The subject matter of claim 5

Claim 5 is dependent on claim 4 which is dependent on claim 3 which in turn is dependent on claim 1. Claim 5 adds to its parent claims that the substrate which is part of the claimed combination (parent claim 3) includes a rib in line with a rib of the foamable layers and carrier layer.

(ii) Claim 5 is patentable over Nomura

Claim 5 was rejected along with parent claim 1 and various other dependent claims under 35 U.S.C. 102(b) as being anticipated by Nomura. In the final rejection the Examiner referred to the prior Office Action of February 24, 2006. In that Office Action the Examiner indicated that "Figure 2 of Nomura shows at least one rib formed by the first and second foam layers and polyvinyl chloride sheet forming a minor interruption of the continuous contour".

An example of the structure defined in claim 5 is shown in Figure 7 of this application where the substrate has a rib 1A

which extends into and thus is in line with the outward bulge or ribs formed in the layers of the laminate. Apart from Nomura not disclosing the basic invention of parent claim 1, it is not apparent where in Figure 2 or in any other figure or disclosure of Nomura there is the combination defined in dependent claim 5 where the laminate is bonded to a substrate with the substrate and the various layers of the laminate having ribs in line with each other.

c. Claim 15

(i) The subject matter of claim 15

Claim 15 is dependent on claim 14 which in turn is dependent upon claim 8 which is dependent on parent claim 1. Claim 1 has been previously discussed. Claim 8 adds to claim 1 the feature of the laminate having a pair of longitudinal side edges interconnected by a pair of transverse end edges with at least one of the edges being non-straight and undulated. Intermediate parent claim 14 adds to claim 8 that the laminate of claims 1 and 8 is in combination with a substrate wherein the compliant foam layer is intimately bonded to the substrate. Claim 15 adds the feature of the substrate being a vehicle door.

(ii) Claim 15 is patentable over Nomura

Claim 15 was rejected under 35 U.S.C. 103(a) as being unpatentable over Nomura for the reasons set forth in the prior Office Action of February 24, 2006. In that Office Action the Examiner recognized that Nomura did not disclose using its sound absorbing panel in combination with an automobile door but concluded that it would have been obvious to make such use.

As discussed in detail above with regard to claim 1 Nomura does not disclose or suggest the subject matter of parent claim 1. In that regard, the Nomura sound absorbing panel lacks the structure defined in parent claim 1 and is not intended to address the problem of paint read through which would be addressed by the laminate of parent claim 1. In rejecting claim 15 the Examiner is modifying the use of the sound absorbing panel disclosed in Nomura to make it into a different type of sound absorbing panel, namely to change it from an auto ceiling panel. Having its panel as an auto ceiling panel is such an important feature of Nomura that it is, in fact, in its title. To move the auto ceiling panel to a vehicle door would be repugnant to Nomura and clearly would be without any motivation from the prior art.

The purpose of claiming the laminate in claim 15 as being bonded to a vehicle door is to address the paint read through problem. Nothing in Nomura is concerned with that problem and

there is no reason from Nomura why one of ordinary skill in the art would move the ceiling panel to a different location such as the vehicle door. Accordingly, claim 15 should be allowed, not only because of its dependency on claim 1, but also for the features added by claim 15.

d. Claim 35

(i) The subject matter of claim 35

Claim 35 is dependent on claim 1 and adds the feature that "said carrier layer is selected from the group consisting of fiberglass cloth, metal screen and foil".

(ii) Claim 35 is patentable over
Nomura in view of Daniel

In rejecting claim 35 the Examiner concluded that claim 35 was unpatentable under 35 U.S.C. 103(a) over Nomura in view of Daniel for the reasons set forth in the prior Office Action of February 24, 2006. In that Office Action the Examiner recognized that "Nomura does not teach the skin formed from either metal or fiberglass cloth". The Examiner, however, concluded that it would have been obvious to use such materials as the decorative skin of the vehicle ceiling panel in view of Daniel.

In making this rejection the Examiner is modifying the sound absorbing ceiling panel of Nomura to make a different sound absorbing ceiling panel. The hypothetical reconstruction of Nomura into the claimed structure of claim 35 (which is directed to a laminate intended to address the paint read through problem) is without motivation from the prior art, since nothing in either Nomura or Daniel would suggest the desirability of modifying the ceiling sound absorbing panel in order to result in a laminate which would deal with paint read through.

e. Claim 54

(i) The subject matter of claim 54

Claim 54 is dependent on claim 1 and defines the first layer as being made from specific material.

(ii) Claim 54 is patentable over
Wycech in view of Muramatsu

Claim 54 was rejected under 35 U.S.C. 103(a) as being unpatentable over Wycech in view of Muramatsu. As discussed in detail with regard to the rejection of parent claim 1, dependent claim 54 is simply not suggested by any reasonable combination of Wycech and Muramatsu because neither Wycech nor Muramatsu discloses or suggests a laminate wherein the intermediate layer

is the "rigid" foamable layer and the "compliant" foamable layer is the outer layer as recited in claim 54.

f. Claim 56

(i) The subject matter of claim 56

Claim 56 is an independent claim which is similar to claim 54 and its parent claim 1. In that regard, claim 56 relates to a reinforcement laminate which comprises a carrier layer, a first layer of foamable material capable of becoming a rigid reinforcement layer, a second layer of foamable material capable of becoming a compliant layer, much the same as claim 1, and also defines the material of the first layer the same as claim 54. Claim 56 differs from claims 1/54 in that it does not define the carrier layer as being made of a non-foamable material as recited in claim 1.

(ii) Claim 56 is patentable over

Wycech in view of Muramatsu

Claim 56 was rejected in the same rejection as claims 1 and 54 under 35 U.S.C. 103(a) as being unpatentable over Wycech in view of Muramatsu.

As noted above, claim 56 is similar to claim 54 and its parent claim 1, but is broader in that it does not recite the


carrier layer as being made from a non-foamable material. For the reasons submitted above, particularly with respect to claim 1, claim 56 is not disclosed by nor made obvious from any reasonable reading of the Wycech or Muramatsu patents. Accordingly, there is no motivation in the prior art for combining Wycech and Muramatsu particularly since neither of these patents addresses the same problem as does claim 56, namely the paint read through problem and particularly since such a hypothetical combination would still lack the structure of claim 56, namely, having a laminate wherein the intermediate layer is the layer that would become rigid and the layer that would be compliant is an outer layer.

VIII. CONCLUSION

For the reasons submitted above it is respectfully submitted that the Examiner should be reversed in her rejections

Respectfully submitted,

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APPENDIX ICLAIMS APPENDIX

1. A reinforcement laminate for reinforcing a substrate comprising a carrier layer, said carrier layer being made of a non-foamable material, a first layer of foamable material capable upon activation of becoming a rigid reinforcement foam secured to said carrier layer, a second layer of foamable material capable upon activation of becoming a compliant foam secured to said first foamable layer, said second foamable layer comprising a bonding layer for securing said laminate to a substrate, said first foamable layer and said second foamable layer being heat curable, said second foamable layer upon activation becoming a foam layer capable of absorbing shrinkage strains due to heat cure of said second foamable layer and cooling of the substrate, and including a pattern of holes creating open passageways completely through said laminate.
2. The laminate of claim 1 wherein said carrier layer is a foil backing.
3. The laminate of claim 1 in combination with said substrate, and said second layer being intimately bonded directly to said substrate.
4. The laminate of claim 3 wherein said first and second layers and said carrier layer have a generally continuous contour, and at least one rib formed by said first and second

layers and said carrier layer forming a minor interruption of said continuous contour.

5. The laminate of claim 4 wherein said substrate includes a rib in line with said rib of said foamable layers and said carrier layer.

6. The laminate of claim 5 wherein said first and second layers and said carrier layer include end flanges extending in the same direction as each other and as said rib away from said continuous contour.

7. The laminate of claim 3 wherein said substrate is a vehicle part selected from the group consisting of a door, a roof, a deck lid and a fender.

8. The laminate of claim 1 wherein said laminate in its elevation view has a pair of longitudinal side edges interconnected by a pair of transverse end edges and at least one of said pair of side edges and said pair of end edges is of non-straight and undulated shape.

9. The laminate of claim 8 wherein said undulated shape has a pattern of hills and valleys joined together in a smooth wavy pattern.

10. The laminate of claim 8 wherein said undulated shape has a pattern of hills and valleys in a sawtooth shape.

11. The laminate of claim 8 wherein said non-straight and undulated edges are said side edges.

12. The laminate of claim 8 wherein said non-straight and undulated edges are said end edges.

13. The laminate of claim 12 wherein said side edges are also non-straight and undulated.

14. The laminate of claim 8 in combination with said substrate, and said second layer being a compliant foam layer intimately bonded to said substrate.

15. The laminate of claim 14 wherein said substrate is a vehicle door.

16. The laminate of claim 1 wherein said pattern of holes comprises a plurality of uniformly and equally spaced aligned rows and columns of holes.

17. The laminate of claim 1 wherein said pattern of holes comprises a plurality of holes arranged in staggered rows and columns.

18. The laminate of claim 1 wherein said pattern of holes is randomly arranged.

35. The laminate of claim 1 wherein said carrier layer is selected from the group consisting of fiberglass cloth, metal screen and foil.

36. The laminate of claim 3 wherein said substrate is a vehicle part.

52. The laminate of claim 1 wherein said first layer and said second layer are in direct contact with each other.

53. The laminate of claim 1 wherein said first layer and said second layer are made of different foamable materials.

54. The laminate of claim 1 wherein said first layer is made of a material comprising 35-95% by weight synthetic resin, 1-60% by weight cell forming agent and 1-55% by weight filler.

56. A reinforcement laminate for reinforcing a substrate comprising a carrier layer, a first layer of foamable material capable upon activation of becoming a rigid reinforcement foam secured to said carrier layer, said first layer being made of a material comprising 35-95% by weight synthetic resin, 1-60% by weight cell forming agent and 1-55% by weight filler, a second layer of foamable material capable upon activation of becoming a compliant foam secured to said first foamable layer, said second foamable layer comprising a bonding layer for securing said laminate to a substrate, said first foamable layer and said second foamable layer being heat curable, said second foamable layer upon activation becoming a foam layer capable of absorbing shrinkage strains due to heat cure of said second foamable layer and cooling of the substrate, and including a pattern of holes creating open passageways completely through said laminate.

57. The laminate of claim 56 wherein said carrier layer is made of a non-foamable material.

58. The laminate of claim 56 wherein said carrier layer is made from a material selected from the group consisting of fiberglass cloth, metal screen and foil.

APPENDIX II

EVIDENCE APPENDIX

None.

APPENDIX III

RELATED PROCEEDINGS

Appellant is not aware of any related proceedings.